

POWDER NANOPARTICLES

Currently, two main groups of nanoparticles are offered:

- **Catalogue nanoparticles**, available in a short period of time (2-3 weeks depending on the type, quantity and availability). These nanoparticles are usually, simple *nano*-oxides with small particle diameter and high purity. There are also a few complex *nano*-oxides available.
- **Customised nanoparticles**. TECNAN can produce a wide variety of mixed or complex nanoparticles under client specifications.

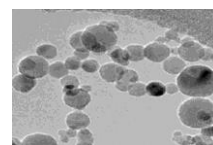
Simple nano-oxides

Aluminum oxide nanoparticles - gamma phase (*nano-Al₂O₃*)

Particle Average Size: 10-20 nm

Specific Surface Area: 82-165 m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)

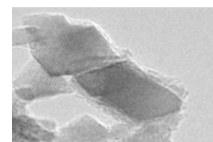


Cerium oxide nanoparticles (*nano-CeO₂*)

Particle Average Size: 5-10 nm

Specific Surface Area: 83-167m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)

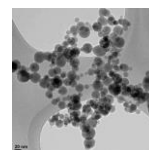


Iron (III) oxide nanoparticles (*nano-Fe₂O₃*)

Particle Average Size: 10-20 nm

Specific Surface Area: 61-123 m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)

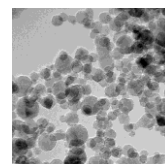


Titanium Oxide nanoparticles (*nano-TiO₂*, mostly anatase)

*Particle Average Size:*¹ 15-25 nm

Specific Surface Area: 62-105 m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)

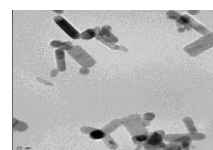


Zinc oxide nanoparticles (*nano-ZnO*)

*Particle Average Size:*¹ 30-40 nm

Specific Surface Area: 26-36 m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)

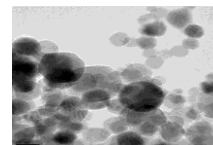


Zirconium oxide nanoparticles (*nano-ZrO₂*)

*Particle Average Size:*¹ 15-25 nm

Specific Surface Area: 42-70 m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)

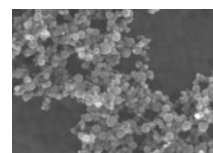


Silicon oxide nanoparticles (*nano-SiO₂*)

*Particle Average Size:*¹ 10-15 nm

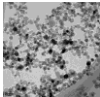
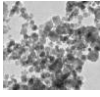
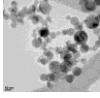
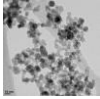
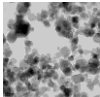
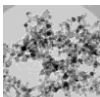
Specific Surface Area: 152-229 m²/g

Available formats: container of 100g, 500g and 1kg (weight of delivered nanopowder)



Ad-hoc complex nano-oxides

Using its advanced technology, TECNAN has the ability to produce a wide range of specialized complex nanoparticles with the same easiness and effectiveness than simple nanoparticles. Thus TECNAN offers products such as mixed nano-oxides of various elements, nano-oxides doped with different metals and even complex structures "core-shell" upon request of its clients in order to satisfy their specific needs. Among this wide range of possibilities, some examples might be:

<p>Nano-ZrO₂ doped 16% with Yttria (Yttrium Stabilized Zirconia, YSZ) <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano-Fe₂O₃/CoO₂ <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano-TiO₂/ZnO (90% w/w ZnO) <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano- ZrO₂ / CeO₂(6% w/w CeO₂) <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano- ZrO₂ / CeO₂(18% w/w CeO₂) <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano- ZrO₂ / CeO₂(30% w/w CeO₂) <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano- ZrO₂ / CeO₂ (50%) doped with 2% Pd <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	
<p>Nano- ZrO₂ / CeO₂ (50%) doped with 1% Pt <i>Available formats:</i> container of 100g, 500g and 1kg (weight of delivered nanopowder)</p>	

Regarding characteristics and prices of other *nano-oxides*, TECNAN is always available for its clients in order to provide them with a customised product suitable to fulfil their requirements. Contact us:

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¹ Calculated from the data of specific surface area (from BET isotherm).